

Amendments to the Specification:

Please replace the paragraph on page 11, line 16, with the following redlined paragraph:

Macroblocks resulting from the motion compensation process 104 are then the subjected to a transform coder 105 which exploits correlation within each MB and also its psycho-visual effects. Examples of transform coders may be found in the aforementioned MPEG1, MPEG2, H.261 and H.263 standards. An embodiment of a transform coder 105 according to the MPEG2 Test Model 5 consists of a DCT, quantiser rate controller with adaptive quantisation, inverse quantiser, and inverse DCT. The transformed and quantised coefficients are inverse quantised and inverse transformed by the transform coder 105 to produce reconstructed MBs which are passed to the frame buffer 103 for future reference. Necessary inverse of motion compensation is also provided to each reconstructed MB by the motion compensation process 104. Reference pictures formed by the reconstructed MBs are used in the adaptive motion estimator 102 and motion compensation process 104. In some applications or coding instances, it is also possible to take input pictures directly as reference pictures for the adaptive motion estimator 102.

Please replace the paragraph on page 12, line 9, with the following redlined paragraph:

A functional block diagram of one form of the adaptive motion estimator 102 is illustrated in Figure 2. The adaptive motion estimator of this embodiment has two inputs 208, 209 and two outputs 210, 211. Current picture data blocks are supplied to a selector 201 of the adaptive motion estimator from the frame buffer 101 at input 209. Reference picture data is provided from the reference picture frame buffer 103 at input 208²⁰⁹ which is coupled to a plurality of motion estimators 204, 205, 206 and 207. The selector 201 also receives input from a motion characteristics analyser 202. The motion estimators 204, 205, 206, 207 are controlled by the selector so that a selected one of them produces an output to the motion vector output 210, which is provided to the motion compensation processor 104 (Figure 1). The output motion vector is also fed back to a global motion estimator 203 and to the motion characteristics

analyser 202. The global motion estimator 203 is coupled to provide data to the motion characteristics analyser and the motion estimators 204, 205, 206, 207. The global motion estimator 203 also produces a maximum search range output which is provided to the statistical coder 106 (Figure 1).